

What is claimed is:

- 1 1. A method for capturing call event data in a telecommunications network, the
2 method comprising:
3 creating an XML call event file including a server information section, at least one
4 SIP
5 message section, and at least one call event section;
6 generating at least one call event record in response to at least one event; and
7 storing the at least one call event record in either the at least one SIP message section,
8 or the at least one call event section.
- 1 2. The method of claim 1, wherein the method is performed using a
2 telecommunications network device.
- 1 3. The method of claim 2, wherein the telecommunications network device is a SIP
2 server computer.
- 1 4. The method of claim 3, wherein the SIP server computer is a SIP proxy server.
- 1 5. The method of claim 3, wherein the SIP server computer is a SIP redirect server.
- 1 6. The method of claim 2, wherein the telecommunications network device is a
2 network management system.
- 1 7. The method of claim 6, wherein the network management system includes a
2 database.
- 1 8. The method of claim 6, wherein the network management system includes a LAN.

1 9. The method of claim 2, wherein the telecommunications network device is a SIP
2 client device.

1 10. The method of claim 1, wherein the at least one event includes a SIP invite
2 request.

1 11. The method of claim 1, wherein the at least one event includes a response to a SIP
2 invite request.

1 12. The method of claim 1, wherein the at least one event includes a SIP redirection
2 message.

1 13. The method of claim 1, wherein the at least one event includes a SIP proxying
2 request.

1 14. The method of claim 1, wherein the at least one event includes a SIP proxying
2 response message.

1 15. The method of claim 1, wherein the at least one event includes a SIP error
2 message.

1 16. The method of claim 1, wherein the at least one event includes a network fault
2 condition.

1 17. The method of claim 1, wherein the at least one event includes the transmission or
2 reception of billing information.

1 18. The method of claim 1, wherein the at least one event is an event related to
2 network monitoring.

1 19. The method of claim 1, wherein the XML document includes a server information
2 tag that identifies an originating server.

1 20. The method of claim 1, wherein the XML document includes a SIP message
2 section identifying whether the event is a SIP request or a SIP response.

1 21. The method of claim 20, wherein the SIP message section includes a service
2 identifier field, the server identifier field uniquely identifying the service associated with the
3 SIP message.

1 22. The method of claim 20, wherein the SIP message section includes a send/receive
2 field that includes IP addresses associated with a caller and a callee.

1 23. The method of claim 20, wherein the SIP message section includes an other
2 message content field that is used to accommodate any additional information.

1 24. The method of claim 1, wherein the XML document includes an event field
2 identifying the event.

1 25. The method of claim 1, wherein the XML document includes a document type
2 declaration section that provides information required by a receiving computer to properly
3 decode the XML document.

1 26. A computer readable medium that can be used to direct a Session Initiation
2 Protocol (SIP) server computer to function in a specified manner, the computer readable
3 medium comprising:

4 a SIP application layer software module, the SIP application layer software module
5 being executable by the SIP server computer to provide SIP functionality;

6 a call event record module coupled to the SIP application layer software module, the
7 call event record module being configured to create at least one call event record in response
8 to at least one event; and

9 an XML processor module coupled to the call event record module, the XML
10 processor module being configured to create an XML call event file, the XML call event file
11 including the at least one call event record.

1 27. The medium of claim 26, wherein the SIP server computer is configured as a SIP
2 proxy server.

1 28. The medium of claim 26, wherein the SIP server computer is configured as a SIP
2 redirect server.

1 29. The medium of claim 26, wherein the at least one event includes a SIP invite
2 request.

1 30. The medium of claim 26, wherein the at least one event includes a response to a
2 SIP invite request.

1 31. The medium of claim 26, wherein the at least one event includes a SIP redirection
2 message.

1 32. The medium of claim 26, wherein the at least one event includes a SIP proxying
2 request.

1 33. The medium of claim 26, wherein the at least one event includes a SIP proxying
2 response message.

1 34. The medium of claim 26, wherein the at least one event includes an error message.

1 35. The medium of claim 26, wherein the at least one event includes a network fault
2 condition.

1 36. The medium of claim 26, wherein the at least one event includes the transmission
2 or reception of billing information.

1 37. The medium of claim 26, wherein the at least one event is an event related to
2 network monitoring.

1 38. The medium of claim 26, wherein the XML document includes a server
2 information tag that identifies an originating server.

1 39. The medium of claim 26, wherein the XML document includes a SIP message
2 section identifying whether the event is a SIP request or a SIP response.

1 40. The medium of claim 39, wherein the SIP message section includes a service
2 identifier field, the server identifier field uniquely identifying the service associated with the
3 SIP message.

1 41. The medium of claim 39, wherein the SIP message section includes a send/receive
2 field that includes IP addresses associated with a caller and a callee.

1 42. The medium of claim 39, wherein the SIP message section includes an other
2 message content field that is used to accommodate any additional information.

1 43. The medium of claim 26, wherein the XML document includes an event field
2 identifying the event.

1 44. The medium of claim 26, wherein the XML document includes a document type
2 declaration section that provides information required by a receiving computer to properly
3 decode the XML document.

1 45. A set of application program interfaces embodied on a computer readable medium
2 for execution on a computer, the set of application program interfaces comprising:

3 a first interface that receives an event identifier and returns a call event record; and
4 a second interface that receives a set of call event records and returns a call event file,
5 the call event file including the set of call event records, the call event file being written using
6 the Extensible Markup Language (XML), whereby the call event file is an XML document.

1 46. The program interfaces of claim 45, wherein the at least one event includes a SIP
2 invite request.

1 47. The program interfaces of claim 45, wherein the at least one event includes a
2 response to a SIP invite request.

1 48. The program interfaces of claim 45, wherein the at least one event includes a SIP
2 redirection message.

1 49. The program interfaces of claim 45, wherein the at least one event includes a SIP
2 proxying request.

1 50. The program interfaces of claim 45, wherein the at least one event includes a SIP
2 proxying response message.

1 51. The program interfaces of claim 45, wherein the at least one event includes a SIP
2 error message.

1 52. The program interfaces of claim 45, wherein the at least one event includes a
2 network fault condition.

1 53. The program interfaces of claim 45, wherein the at least one event includes the
2 transmission or reception of billing information.

1 54. The program interfaces of claim 45, wherein the at least one event is an event
2 related to network monitoring.

1 55. The program interfaces of claim 45, wherein the XML document includes a server
2 information tag that identifies an originating server.

1 56. The program interfaces of claim 45, wherein the XML document includes a SIP
2 message section identifying whether the event is a SIP request or a SIP response.

1 57. The program interfaces of claim 45, wherein the XML document includes an
2 event field identifying the event.

1 58. The program interfaces of claim 45, wherein the XML document includes a
2 document type declaration section that provides information required by a receiving computer
3 to properly decode the XML document.

1 59. A set of application program interfaces embodied on a computer readable medium
2 for execution on a Session Initiation Protocol (SIP) server computer in conjunction with a SIP
3 application layer software module that provides SIP functionality, the set of application
4 program interfaces comprising:

5 a first interface that receives a SIP event identifier and returns a call event record; and
6 a second interface that receives a set of call event records and returns a call event file,
7 the call event file including the set of call event records, the call event file being written using
8 the Extensible Markup Language (XML), whereby the call event file is an XML document.

1 60. A communications network for establishing a communications session between a
2 first client and a second client, the communications network comprising:

3 at least one Session Initiation Protocol (SIP) server computer, the SIP server computer
4 including a first call event record module configured to create a call event record
5 corresponding to an event, and a first XML processor module configured to create a first
6 XML call event file, the first XML call event file including the call event record; and
7 at least one network system coupled to the at least one SIP server computer, the at
8 least one network system including a second XML processor module, whereby the at least

9 one network system can read the first XML call event file.

1 61. The network of claim 60, wherein the at least one SIP server computer includes at
2 least one SIP proxy server and at least one SIP redirect server.

1 62. The network of claim 61, wherein the at least one SIP proxy server includes a
2 plurality of SIP proxy servers, at least one of the plurality of SIP proxy servers being
3 manufactured by a different manufacturer.

1 63. The network of claim 61, wherein the at least one SIP redirect server includes a
2 plurality of SIP redirect servers, at least one of the plurality of SIP redirect servers being
3 manufactured by a different manufacturer.

1 64. The network of claim 61, wherein the at least one SIP proxy server and the at least
2 one SIP redirect server are manufactured by different manufacturers.

1 65. The network of claim 60, wherein the at least one SIP server and the at least one
2 network system are manufactured by different manufacturers.

1 66. The network of claim 60, wherein the at least one network system includes a
2 second call event record module configured to create a call event record corresponding to an
3 event, the second XML processor module configured to create a second XML call event file,
4 the second XML call event file including at least one call event record.

1 67. The network of claim 66, wherein the first XML processor module is configured
2 to can decode the second XML call event file.

1 68. The network of claim 67, wherein the first XML call event file includes a
2 document type declaration section that provides information required by the second XML
3 processor module to read the first XML call event file.

1 69. The network of claim 67, wherein the second XML call event file includes a
2 document type declaration section that provides information required by the first XML
3 processor module to read the second XML call event file.

1 70. The network of claim 66, wherein both the first XML call event file and the
2 second XML call event file include a server information tag that identifies an originating
3 server.

1 71. The network of claim 66, wherein both the first XML call event file and the
2 second XML call event file include a SIP message section identifying whether the event is a
3 SIP request or a SIP response.

1 72. The network of claim 66, wherein both the first XML call event file and the
2 second XML call event file include an event field identifying the event.

1 73. A computer-readable medium having stored thereon a data structure formatted as
2 an XML document file, the data structure comprising:
3 a server identifier section including information identifying the server that created the
4 XML document file;
5 a SIP message type section; and
6 a SIP event section including information relating to a SIP message event.

1 74. The data structure of claim 73, wherein the server identifier section includes
2 information identifying the vendor of the server.

1 75. The data structure of claim 73, wherein the server identifier section includes the
2 operating system running on the server.

1 76. The data structure of claim 73, wherein the XML document is a call event record
2 that includes a plurality of call event records.

1 77. The data structure of claim 77, wherein the SIP message section includes a service
2 identifier field, the server identifier field uniquely identifying the service associated each call
3 event record.

1 78. The data structure of claim 73, wherein the SIP message section includes a
2 send/receive field that includes IP addresses associated with a caller and a callee for each call
3 event record.

1 79. The data structure of claim 73, wherein the SIP message section indicates whether
2 a call event record relates to a SIP request or a SIP response.

1 80. The data structure of claim 73, wherein the SIP message section identifies the
2 originator of each call event record contained in the XML document file.

1 81. The data structure of claim 73, wherein the SIP message section identifies the
2 receiving party of a call event record pertaining to a SIP message.

1 82. The data structure of claim 73, wherein the SIP message section includes a time
2 and date of each call event record contained in the XML document file.

1 83. The data structure of claim 73, where the SIP event section identifies the event
2 recorded by each call event record contained in the XML document file.

1 84. The data structure of claim 73, wherein the XML document includes a document
2 type declaration section that provides information required by a receiving computer to
3 properly read the XML document.

1 85. A computer readable medium having computer executable instructions for
2 performing a method, the method comprising:
3 generating at least one call event record in response to at least one event; and
4 creating an XML call event file including the at least one call event record.